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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,304	12/22/2005	Wolfgang Peisl	2003P04065WOUS	3760
29177	7590	03/16/2009	EXAMINER	
K&L Gates LLP P.O. BOX 1135 CHICAGO, IL 60690			DOBSON, DANIEL G	
			ART UNIT	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,304	<b>Applicant(s)</b> PEISL ET AL.	
	<b>Examiner</b> DANIEL G. DOBSON	<b>Art Unit</b> 2613	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) 1-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-38 and 45 is/are rejected.
- 7) ☐ Claim(s) 39-44 and 46-54 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/18/2008</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claim 30 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over .S.

Patent Application Publication 2002/0015199 A1 to Eder et al. and U.S. Patent Application Publication 2002/0024723 A1 to Sekiya et al.

As to **Claim 30**, *Eder* discloses a method for pre-emphasis of an optical wavelength division multiplex signal of which signals with different wavelengths assembled in groups (Fig. 1, Multiwavelength signals are multiplexed at OTT TX) are transmitted over a channel of a transmission link with a number of sections and network elements (Fig. 1, the link has a transmit, receive and OADM network elements with sections between), the channel selected from the group consisting of express channel, drop channel, add channel, and add-drop channels (Fig. 1, the system provides an express channel (es1-esm), drop channel (ds), and a n add channel (as)), the method comprising:

transmitting from a first network element to a second network element for the express channel (Fig. 1, express channels (es1-esm) travel from OTT TX (first element), pass through the OADM and are received at OTT RX (second element));

injecting drop channels, add channels or add-drop channels at drop points that are arranged between the first and second network elements (Fig. 1, at the OADM drop channel and add channels are dropped/added, the OADM is between the first and second elements); and

achieving in a network element (Fig. 2, OADM) for a termination group (Fig. 2, drop signals ds1 to dsn) of signals and an injection point of the group (Fig. 1, the drop signals are transmitted from OTT TX), an average and an individual-channel power setting of the signals for the termination group (regardless of attenuator setting or launched power an average and an individual-channel power setting is achieved for the dropped signals),

wherein for a non-termination group of signals the average power set to a preceding network element (§ 28, for the express signals (es1 to esm) the average power is set at OTT TX, a preceding network element.)

*Eder* does not expressly disclose achieving predetermined average optical signal-to-noise ratios (OSNR's.)

*Sekiya* discloses achieving predetermined average OSNR's (Fig. 7B) in a network element for a termination group of signals (§ 209, receiving station) and an injection point of the group (§ 209, transmitting station.)

*Eder* and *Sekiya* are from the same art with respect to optical communications, and are therefore analogous art.

At the time of the invention, it would have been obvious for a person of ordinary skill in the art to achieve predetermined average OSNR's in the system disclosed by *Eder*. The suggestion/motivation would have been to compensate for systemic gains and losses as a function of wavelength (§ 19.)

4. Claims 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2002/0015199 A1 to *Eder et al.* in view of U.S. Patent Application Publication 2006/0098990 A1 to *Claringburn* and U.S. Patent Application Publication 2002/0024723 A1 to *Sekiya et al.*

As to **Claim 31**, *Claringburn* discloses a system where the power of each channel is individually controllable (§ 24.) Based on a given channel's bandwidth, distance, and noise added by the system, a transmission level is calculated to give the minimum OSNR (§ § 24, 31-33.) Thus available launch power can be used for channels traveling a greater distance.

In the system disclosed by *Eder*, express channels and a drop channels are transmitted at a common node (OTT TX.) The drop channels are extracted from the path at the next node (OADM) and the express channels continue on to the terminal node. In this situation, the express channels have a longer distance to travel than the drop channels.

Applying the teaching of *Claringburn* to the situation of *Eder*, it would be obvious for a person of ordinary skill in the art would lower the average signal

power of the group with drop channels dropped at a subsequent node in favor of the average signal power on the onwards-routed group of express channel. The suggestion/motivation would have been to intelligently distribute the available launch power at the transmission node (§ 33.)

*Eder* and *Claringburn* are from the same art with respect to optical communications, and are therefore analogous art.

As to **Claim 32**, *Claringburn* discloses redistributing via a signal power regulation of the average signal powers between the groups in injecting or switching network elements (at add/drop nodes (injecting elements) the signal power is redistributed to channels that need it, §§ 24, 31-33.) The suggestion/motivation is the same as that used in the rejection for claim 31.

As to **Claim 33**, *Eder* discloses wherein the average signal-to-noise ratios or differences between the signal-to-noise ratios of the groups of signals at corresponding termination points are determined by a network management system (Fig. 1, OSNR controller connected to all nodes via the OSC.)

As to **Claim 34**, *Eder* discloses wherein all channels at a corresponding point are changed individually (Fig. 2, individual channels added and dropped at OADM) and the average power modification of the channel group is calculated to determine the power modification (Fig. 2, average power is measured at PS1 and PS2, the powers are used to control the VOA's, § 40.)

As to **Claim 35**, *Eder* discloses an OSC connecting all nodes to the NMS and *Claringburn* discloses that the controller is cognizant of the network

topography. Official notice is taken that data packets are commonly used to transmit information over a network channel such as an OSC. Therefore, it would have been obvious to use a data packet sent out from an add/drop node containing the add and drop points of each of the signal. The suggestion would have been to disseminate topological information to all network elements.

As to **Claim 36**, *Eder* discloses that the OSC carries the control information for individual channel pre-emphasis. At the time of the invention it would have been obvious to use a packet to carry this information.

5. Claims 37, 38, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2002/0015199 A1 to Eder et al, U.S. Patent Application Publication 2002/0024723 A1 to Sekiya et al., and U.S. Patent Application Publication 2006/0098990 A1 to Claringburn, as applied above, and further in view of U.S. Patent Application Publication 2001/0048687 A1 to Coden.

As to **Claim 37**, *Coden* discloses wherein for control of a transmission direction and a data packet range between network elements a counter in the data packet is initialized, or incremented or decremented (§§ 112, 121.)

At the time of the invention it would have been obvious for a person of ordinary skill in the art to use initialize, increment, or decrement a counter in a data packet for control of transmission direction and range. The suggestion/motivation would have been to gather information about topology of the network from the transmitted packet.

*Coden* solves the same problem with respect to topology discovery, and is therefore analogous art.

As to **Claim 38**, *Claringburn* discloses selecting a regulation protocol provided at a selected controlling network element for control of the individual channel pre-emphasis (§ 23.) The calculation is dependent on information from the network connectivity section (Fig. 1, 8.) As discussed above, this information is disseminated through the network via counters (*Coden*) and markings for a dropping of a group (information on a packet indicating at which node a given signal is terminated.) Accordingly, it would have been obvious to a person of ordinary skill in the art to use counters and markers of a packet for selecting the regulation protocol to be performed. The suggestion/motivation would have been to gather all connectivity information and make an adjustment based on this information.

As to **Claim 45**, *Eder* discloses wherein the pre-emphasis steps are controlled at different selected controlling network elements (VOA's at OTT TX and OADM are controlled) during the transmission of the data packet within the transmission link (packet is transmitted over the OSC transmission link, for use by the controlling network elements (OTT TX and OADM.)

***Allowable Subject Matter***

6. Claims 39-41 and 46-50 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL G. DOBSON whose telephone number is (571)272-9781. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2613

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Daniel G. Dobson/  
Examiner, Art Unit 2613  
03/12/2009

/Kenneth N Vanderpuye/  
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